

AMENDMENTS TO THE CLAIMS

1-11. **(Canceled)**

12. **(New)** A transmission amplifier for amplifying a signal to be transmitted, said transmission amplifier comprising:

an amplifying unit configured to amplify the signal;

signal level detecting means for detecting a level of the signal;

temperature detecting means for detecting a first temperature at a thermally coupled first position with said amplifying unit and for detecting a second temperature at a second position that is less thermally coupled with said amplifying unit than the first position; and

an amplifying-unit-warm-up-processing control device configured to stop warm-up processing for said amplifying unit, when, in performing the warm-up processing for said amplifying unit, a difference between the first temperature and the second temperature detected by said temperature detecting means is equal to or larger than a threshold value corresponding to a signal level detected by said signal level detecting means.

13. **(New)** A transmission amplifier according to claim 1, further comprising:

a signal-level-and-temperature-difference-threshold-correspondence storing device configured to store a correspondence of the signal level and the threshold value concerning the temperature difference,

wherein said amplifying-unit-warm-up-processing control device is configured to control the warm-up processing for said amplifying unit on the basis of contents of the correspondence stored by the signal-level-and-temperature-difference-threshold-correspondence storing device.

14. **(New)** A transmission amplifier according to claim 1, wherein said amplifying-unit-warm-up-processing control device is configured to detect, for every predetermined period, a difference between a first temperature and a second temperature detected by said temperature detecting means.